

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. (currently amended) An imaging system to reposition an image capture device in a position relative to a subject of interest according to six degrees of freedom as preserved in association with a reference image of the subject of interest, comprising:

an image capture device;

a position apparatus on which the image capture device is mounted, operable to orient the image capture device relative to a subject of interest according to six degrees of freedom;

an acquired reference image of the subject of interest, wherein said acquired reference image is ~~based on an initial acquired image of said subject~~ a random or arbitrary scene of interest, ~~where said initial acquired image enables the identification of identifying~~ fixed points in said reference image, and ~~wherein said acquired the~~ reference image ~~[[is]]~~ comprises a computational model generated from said ~~an~~ initial image of ~~said the~~ subject of interest;

a computational device coupled to the position apparatus, such computational device capable of receiving images from the image capture device and receiving the reference image, performing a comparison, and communicating adjustments to reposition the image capture device along any of six degrees of freedom.

2. (Original) An imaging system as in claim 1 wherein the communication of position adjustments is via signals to the positional apparatus from the computational device.

3. (Original) An imaging system as in claim 1 wherein the communication of positional adjustment data is by means of a user interface.

4. (currently amended) A method for repositioning an image capture device relative to a subject of interest according to six degrees of freedom comprising the steps of:
 - a) initializing an imaging system, wherein initializing includes the steps of:
 - a.1) obtaining a reference image of the subject of interest, wherein said reference image is acquired ~~from and based on an initial acquired image~~ of said subject a random or arbitrary scene of interest, ~~where said initial acquired image enables the identification of fixed points in said reference image~~ identifying fixed points in said reference image, and ~~wherein said acquired~~ the reference image ~~[[is]]~~ comprises a computational model generated from said an initial image of said the subject of interest, wherein said reference image includes multiple reference points in 3-dimensional space;
 - a.2) repositioning an image capture device relative to the subject of interest, where such repositioning uses six degrees of freedom;
 - b) imaging the subject of interest;
 - c) computing the difference between the reference image of the subject of interest and the image capture device image;
 - d) refining the position of the image capture device so that the image capture device is in the same position relative to the subject of interest as that position from which the reference image was obtained, where such position refining the position of the image capture device occurs along six degrees of freedom.
5. (Original) A method as in claim 4 in which the step of initializing further includes the step of generating a three dimensional model of the subject of interest through selection of reference pointes in the subject of interest.
6. (Original) A method as in claim 4 where the reference image is obtained after fixed reference points have been selected in the subject of interest.

7. (Original) A method as in claim 4 where the step of initializing includes extracting reference points from more than one image of the subject of interest representing more than one camera center.
8. (Original) A method as in claim 4 where time has elapsed between the initialization process and the repositioning of the image capture device.
9. (Original) A method as in claim 4 where the computation of position is communicated to an automatic position correction apparatus.
10. (Original) A method as in claim 4 where the computation of position is communicated to the user through an interface.
11. (currently amended) An apparatus for positioning an imaging device and adapted for coupling to an image capture device and where such apparatus positions said image capture device along six degrees of freedom, such that the positioning of the image capture device is controllable and said apparatus orients the image capture device relative to a subject of interest using six degrees of freedom to orient the image capture device, and wherein said positioning of said image capture device relies on a reference image of the subject of interest, wherein said reference image is based on an initial acquired image of ~~said subject~~ a random or arbitrary scene of interest, identifying fixed points in said reference image, where said initial acquired image enables the identification of fixed points in said reference image, and wherein said the reference image ~~[[is]] comprises~~ a computational model generated from said initial ~~acquired~~ image of ~~said~~ the subject of interest.
12. (Original) An apparatus as in claim 11 where the positioning of the image capture device is automated.